

PROCEEDINGS
OF
THE ROYAL SOCIETY.

1847.

No. 70.

November 25, 1847.

GEORGE RENNIE, Esq., Treasurer, in the Chair:

His Grace the Duke of Wellington was elected a Fellow of the Society.

Postscript to Mr. W. H. Barlow's paper on Alternating Diurnal Currents of Electricity at the Terrestrial Surface.

The author states that since his paper was read to the Society, he had made further experiments to determine with greater accuracy the direction in which the daily electrical currents travel, and also how far the motions of the horizontal magnetic needle correspond with that of the telegraph. With regard to the latter, he finds that although they agree as to the general character of their deflexions, there is no decided simultaneous coincidence in their movements.

"Magnetical experiments on board H.M. Iron Steam Vessel 'Bloodhound.'" By Captain Edward Johnson, R.N., F.R.S. Communicated to the President by the Lords Commissioners of the Admiralty, and communicated to the Society by the President.

These experiments were undertaken with the view of ascertaining whether the action of steam upon the hull of an iron vessel affects a compass, properly placed, in any degree that may be of practical importance in its navigation; and also whether the keeling of the vessel produces any alteration in the deviations, or disturbs a compass so placed to any considerable extent. The former question is, from the results of these experiments, resolved in the negative; but with respect to the second, it appears that the deviations produced by keeling are very marked, and could not be safely disregarded. These observations completely confirm those already made by Mr. Walker and Commander Shaugh on board H.M. Iron Brig 'Recruit,' Commander A. Slade, and they prove the necessity that exists for ascertaining the deviations of the compass in all ships, not only at the beginning and end of their voyage, but likewise at intermediate